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ABSTRACT

Central Michigan University's Institute of Personal and Career Development (IPCD) extends educational opportunities to adults who determine from their career experiences that they need additional professional competencies. The program is based on competency objectives which were evaluated according to broad criteria referenced tests. Upon entering, each candidate identifies their areas of expertise, and they select an appropriate set of skills and a proficiency level they hope to achieve. This system requires the professor to adopt the role of instructional designer, and the university staff is required to supply large amounts of planning, advising, and counseling. IPCD presently offers ten self-contained, criterion-referenced learning packages which are combinations of textbooks and programed instruction. A special staff of educational materials specialists are employed to design materials to meet the needs of students. (EMH)

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Title of Presentation: Criterion Referenced Instruction in Academic and Career subject areas for undergraduate and graduate degrees, using mediated, self-paced, developmentally tested, learning packages or competency-based syllabi, in individualized and group settings, utilizing instructional technology.

INTRODUCTION

This paper will attempt to describe the instructional design, development and delivery system of competency based, criterion-referenced learning packages and syllabi used for instruction in the external degree programs of the Institute for Personal and Career Development (IPCD) of Central Michigan University.

Central Michigan University's Institute for Personal and Career Development extends educational opportunities to individuals and groups who cannot otherwise participate in the University's academic programs because of career, personal, or geographic circumstances. As an arm of Central Michigan University, IPCD shares the same goals and standards. Because of its special mission, however, several features are unique to the Institute.

Specifically designed for mature adults whose professional or career experiences have demanded the learning or developing of competencies in the environment outside the classroom, IPCD programs recognize this foundation of learning by doing, of learning by modeling, and of learning from patterning and responding to reality situations. The competency-based criterion-referenced design aspects of the programs were developed by Instructional Design & Development, Division of Instructional Resources, CMU, and financed by IPCD to meet its special program requirements.

DESCRIPTION

The nontraditional external degree components of the Institute's programs are essentially competency-based, developed for the most part

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upon and in anticipation of the fulfillment of personal and career objectives rather than for the fulfillment of traditional classroom competencies and objectives. The programs place most emphasis upon broad, sometimes specific, competency objectives learned or to be learned, assessed, evaluated, and documented whenever possible.

The IPCD degree programs have many traditional features. Courses in the compressed group instruction and in the learning packages are graded for superior performance. Degree options and degree requirements are stated in the traditional terms of credit hours. Admission requirements are still traditional depending upon prior documentation of graduation or diploma. Some of these traditional features and others are being studied for relevance and value not only by IPCD but also by the total U.S. college and university community.

IPCD competency objectives require a reality performance assessment system predicated upon either observation of current performance or assessment of documented, attested competencies of past performance. This contrasts with the traditional assessments of classroom and textbook learnings if applied in an adult context: paper and pencil testing of classroom behaviors, of classroom competencies derived from lectures or classroom discussions, and of learnings derived from simulations or replication of classroom behaviors. The need was not for a modified set of techniques or evaluation instruments based upon present models of measuring traditional classroom learning, but rather for new assessment modes and evaluation methods which could examine and evaluate career acquired or career-related competencies or abilities.

Fundamentally, it is the philosophy of the IPCD that the candidate seeking college credit under nontraditional criteria or innovative aspects of the degree program should present evidence of certain competencies

desirable for the degree and concentration specified by the faculty in appropriate departments of the University. These learnings or competencies usually will be broad groups of required skills, knowledge, attitudes, abilities or attributes which may be measured or evaluated against specified criteria. Affective criteria may be intangible and must be assessed subjectively where necessary by individual faculty members or teams. The course or degree competencies, as specified objectives, are not behavioral in the usually accepted sense or usage, that is as micro in nature with specific detailed criteria. They are regarded as broad terminal macro objectives for a course or for a degree program--objectives acquired from extended adult learning experiences assessed and evaluated according to broad criteria.

IPCD's nontraditional present course and degree requirements (based upon the achievement, assessment and evaluation of demonstrable competencies) are an outgrowth of its early attempts to assess and evaluate the experiencing of, or exposure to, life or non-classroom experiences. The Institute has moved beyond the "experience" or "exposure" base to the present competency-based criteria (requirements).

Degree certification of competencies, as developed for a nontraditional external degree program, seems more rational or credible than the certification or credentialing of exposure to a life experience or even the certification of a term of academic classroom exposure or experiences for credit without evidence of attainment of pre-specified competencies.

A competency could be described as more than knowledge of or about something. An essential condition must be the ability or skill to use this knowledge at some acceptable proficiency or criterion level. There is the assumption of quality of performance, whether in thinking--such as making critical judgements or evaluations, whether in the ability

to use concepts, or whether in personal growth attributes. Essentially then, an instructional developer might not regard the ability to replicate on demand a "human book"--as a desirable competency unless there was a specified, relevant skill or use related to this ability to absorb information or knowledge and reproduce or replicate it.

A competency-based program must define, assess and evaluate the outcomes of learning rather than accept the exposure to content or the experiencing of a situation in or out of the classroom as an achievement in itself. The stress is upon the change in or development of the ability, behavior or attitude rather than the exposure to or the experiencing of something in an environment, whether in career or formal classroom situations.

In the "exposure" or "experience" curriculum (in or out of the classroom) we can only assume competence from the record of a time frame of career or academically oriented classroom experiences, exercises or exposures which have resulted in the acquisition of grades or credits. If no competence or growth in competence results, then no credit should be given for a record of exposure.

To summarize, in a competency-based program no credit can be given for simple documentation of a life experience or any exposure per se unless an ability, a desired change in behavior, a developed skill or attitude can also be described and documented for evaluation. In some cases, however, where the desired growth or learnings are intangibles, they may be evaluated subjectively by discipline specialists.

Assessment and evaluation in a competency-based curriculum or in courses involves more than traditional academic skills assessment or competency assessment by faculty academicians. Competency assessment involves evaluation by professionals outside the university community, including superiors, community leaders and/or specialists who are able

to discern specified attributes in submitted reports and will attest to the strength and validity of the competencies.

The greatest challenge to most faculty in their new role as designers and credentialers of competencies is that they are the analyzers, the designers, the developers of instruction, the facilitators of learning, of perceived skills, competencies or abilities in the disciplines as opposed to the traditional role of lecturers, masters of exposition, the providers of discipline information, knowledge and research.

Methodology at the Institute

The IPCD has worked closely with departments, professors, degree committees and others within the University who have volunteered to analyze, develop, and state expected outcomes of instruction, curriculum and degree requirements in terms of broad and specific competencies: cognitive, affective or psychomotor abilities and skills. After this was done it was found that much of the traditional instruction and many traditional classroom requirements were not relevant to the expected learning outcomes in terms of the competencies to be acquired.

The analyses and statements of the goals of instruction, the learning outcomes, and their criteria or expected proficiency levels have provided the Institute for Personal and Career Development with a very effective instrument to assist in planning and developing compressed relevant instruction either in terms of group instruction, or in developing individualized learning packages. It has simplified the assessing and accrediting of non academically acquired competencies, "Developmental Experiences," and the planning of Independent Study and "Planned Experiences" on or off the job.

IPCD programs are developed for the greatest degree of flexibility and individualization. A great deal of planning, advising and counseling must support this effort.

Registration

After registration with the Institute, students are assigned a counselor with whom they review degree and concentration requirements. The counselor works with a student to prepare a Program Planning Guide which will list required competencies for the degree program and the learning activities necessary to fulfill competency requirements.

IPCD credit requirements for degree programs parallel those of the University. Undergraduates are required to successfully complete 124 semester hours credit, and at least 30 must be earned with Central Michigan University. Graduate students must successfully complete 30 semester hours credit, at least 15 from CMU.

Competency "learning activities" may include a CMU course, whether offered on campus or in another location, transfer credit, or developmental experience credit.

Although a student may enroll in any classes offered on campus, IPCD instructional delivery may take the form of compressed mini-sessions requiring intensive pre-class preparation, independent study with a qualified supervisor, directed readings, a research project, an internship, special projects, or self-contained learning packages. Undergraduates have the option of acquiring credit by examination or through planned experiences in the career field. All instruction offered through IPCD carries full CMU residence credit.

If the student and his advisor feel the student is eligible for developmental experience credits, they assemble a portfolio analyzing, listing and documenting with affadavits, the student's experiences, career and non-career, and the learnings and competencies achieved by these experiences. The portfolio is assigned without identification to a member of a team of trained independent university faculty analysts

who study the documentation and assign specific course or degree credits, normally up to a maximum of 60 hours for undergraduate or 10 hours for graduate credit. In certain cases or in a quality control random sampling more evidence may be requested or the portfolio may be thoroughly investigated. The number of assigned credits may be appealed by the candidate and reviewed. additional IPCD quality controls and safeguards are built into the system.

As of December 1, 1975, approximately 50% of the graduate students who applied for developmental experience credit received DE credit. The average award was 5 credit hours per student. On the undergraduate level approximately one third of the students who applied for DE credit received it. The average award was 37 credit hours per student.

FEES

Tuition for IPCD courses and learning packages is $60 per credit hour.

The fee for developmental experience credits is assessed (only if academic equivalents have been earned) according to the following schedule:

1-3 semester hours -- $25
4-6 semester hours -- $50
7-10 semester hours -- $100
11-30 semester hours -- $150
31-60 semester hours -- $200

All books and materials are furnished at regular publisher's retail price or at cost; the cost of bocks and materials in a learning package is covered by the tuition for the package.

LEARNING PACKAGES

One instructional delivery system used by IPCD is the learning package. These criterion-referenced, developmentally tested, self-instructional learning packages are not modified textbooks nor are they academic subjects

presented in a linear programmed instructional format. They are a studied, carefully devised effort to achieve the best of both worlds. An academician might describe them as carefully designed, mediated, sequenced, tested instruction. An instructional specialist or an instructional technologist, with many reservations perhaps, might describe them as examples of sophisticated, large framed, mediated, self instructional, adjunctive, developmentally tested, instructionally programmed or sequenced learning packages on the college or university course level. Package course titles range all the way from career-area courses such as Accounting, Economics, Public Relations, Managerial Finance, Social Psychology, Library Science, Dynamics of Organizational Behavior, and Community Health to more liberal arts oriented areas such as Cultures of the World and Shakespeare. The Institute projects an expenditure on these packages of $350,000 by June, 1977. The costs of the packages vary, depending upon the level of effort necessary to fulfill the objectives of the instructional design. A normal reasonable cost estimate would be from $12,000 to $18,000 per 3-credit package, depending upon whether design levels of mediation are film, filmstrip, slides, videotape, etc., whether adjunctive learning activities are included, and whether the package is keyed to a standard text. If the package is a computer course, for instance, the student must have programs run and the adjunctive, out-of-package, activities will run to greater expense. As previously mentioned, book costs are included in the learning package. There are some hidden costs and overhead absorbed by the University and the Institute.

IPCD now has ten packages, each carrying 3 hours of academic credit, completed and approved; three 3-credit packages have been completed, not yet reviewed and approved; and twenty-three additional 1-credit packages are in design and development. The 1-credit packages will be individual modules, three of which, when appropriately sequenced, will comprise a 3-credit course sequence.

TYPES OF PACKAGES

Learning packages are designed in a modular format in graduate levels of complexity. One type may be completely self-contained and self-instructional with individual student-instructor contact by telephone only. (IPCD data indicates that students have not required contact with the instructor.) Plans are being developed to bring individual students together at intervals for study or discussion groups or to provide week-end access to regional learning or instructional resource centers, in order to assist individuals in relating the package objectives to the career environment.

Each package module contains a self-assessment test through which the students can check their proficiency prior to the final proctored module examination in order to permit recycling in the module and prevent failure on the final examination. Students who may already have the projected competencies may register and "test out" of the modules for credit.

Another type of learning package is the preclass or pregroup package for mini-sessions or regular classes. This pregroup instructional package may or may not provide preremedial functions, depending upon the preanalysis of group data or experience. The package is sent to the individual members of the class 6 to 8 weeks prior to the first class meeting. Several assignments are required to be submitted at intervals and another assignment must be submitted at the first class meeting. Several purposes are served. (1) Necessary remediation may be accomplished before the first meeting. (2) Some common entry level is assured. (3) The instructor can determine in advance which students need special assistance.

Approximately one half of the preclass package may be assigned before the first class meeting; the second half of the package is used during group instruction as a syllabus which will guide the instructor and the students. The limited, compressed instructional time as determined by the criterion referenced syllabus may then be spent on the development of more complex concepts and competencies. In all packages and course syllabi, the course objectives are given to the students in advance of the instruction.

DEVELOPMENT

Package planning begins with analysis of the needs of student clients in academic or career areas. After the degree, course objectives, and requirements have been established, CMU departments are contacted for faculty Subject Matter Specialist (SMS) nominations. Faculty participation is voluntary and it may or may not be difficult to obtain faculty participants. Package development is hard work, an addition to the normal teaching load, and will occupy much of a faculty member's leisure time during a 5 to 7 month period. Faculty members are paid $3,000 per 3-credit package during the development, in a series of increments and steps.

Central Michigan University's Division of Instructional Resources has four professional developers or technologists who hold doctoral-level degrees. At least two of these developers are usually assigned to IPCD projects. At any one time, one developer may be working with as many as three SMS on three separate packages, depending on the experience of the faculty members involved. The usual ratio is two faculty specialists to one instructional developer.

During package development, several target learners (student prototypes) work through the developing course for credit and are periodically

interviewed by both the developer and SMS. The target learners are paid and are not assessed tuition for the course. The package examinations are monitored by IPCD while the packages are being used by the first cycle of 30 student learners in the field. At the end of the cycle the results are carefully analyzed for learner difficulties. Pre- and post-attitudinal surveys and a final course evaluation opinionnaire are completed for each package, both in developmental prototype testing and in the field, in order to obtain student reaction. These longitudinal tests are important for student reactions and shifts in attitude towards aspects of package design.

The developer and the SMS usually have the most difficulty in the task analysis phase: determining the objectives in terms of academic or career competencies and establishing the evaluative criteria. The competency objectives are sequenced as appropriate for the determined hierarchy of dependency in each module and appropriate tests for each competency objective are established for the end of each unit or module. Then follows what might be defined as the synthesis phase, the mix of content, media and student activities--for the classroom, learning center or home study situation--which will develop the specified competencies. An instructor is available to each student by telephone.

For simplicity of testing, essay questions needing instructor evaluation are used only in the final module tests. A student must complete a self-assessment test before attempting the final modular test to determine if he is at proficiency level. If the student has not reached the acceptable proficiency level, he may recycle in the module, in order to avoid lack of success on the final criterion tests. All module tests are proctored and graded on the spot for quick feedback

to the student. Students are told their score and in which objectives they did not reach predetermined criterion proficiency levels.

GRADING

In many colleges or educational agencies where self-instructional units have replaced portions of the traditional group classroom instruction, questions have been raised about the grading system. How are students graded?

The immediate reaction is that these units lend themselves very well to a pass and fail grading system. Closer inspection of the inherent philosophy, however, reveals that the objective is to design a unit, carefully sequenced, for varied learning styles, abilities and previous experiences, so that all students of postsecondary or university level (with rare misplaced exceptions) may succeed or reach the acceptable or criterion level of performance. If not, the fault is in the program or designer, not the student. The failing student in this new design becomes one who has not yet reached the acceptable level of performance and one who must recycle, go over that portion of the unit activities once again and study or practice the exercises or activities until he or she reaches an acceptable level of competency. In the case of that student who wishes to attain a higher level than pass or acceptable, additional alternative units with more complex activities or levels may be designed or provided so that the more ambitious may acquire an "honors" grade the equivalent of "A" on the module or course.